

## **REMARKS/ARGUMENTS**

### **Claim Amendments**

Claims 1-3, 5, 10-12, 14-16, 18-21, 23-26, 28, 29, 33 and 42 have been amended to replace the term "processor" or "processing unit" with "central processing unit." Full support for these amendments is found in the specification (in reference to Fig. 6) at page 10, lines 22-25: "A central processing unit 601 for processing information and instructions is coupled to bus system 600. A processing unit may be a processor a microprocessor or any group or combination of processors or microprocessors." No new matter is added to the application through these amendments.

### **Conception Under 37 CFR § 1.131**

#### **Relevant Prosecution History**

Claims 1-83 remain pending in this U.S. Patent Application No. 09/578,631 (the "'631 Application"). Claims 1-15, 18-56 and 59-83 stand rejected; claims 16, 17, 57 and 58 stand objected to as being dependent upon a rejected base claim. Applicants submit that the remarks below, in conjunction with the new Declarations submitted herewith, overcome all rejections of and objections to claims 1-83.

The date of conception of the inventions described in the two independent claims in the '631 Application -- claims 1 and 43 -- has been an issue for most of the prosecution. In the Office Action of May 8, 2002, the Examiner ruled that U.S. Patent No. 6,182,857 to Hamm et al. ("Hamm") was prior art under 35 USC § 102(e). He rejected claims 1 and 43 (among others) for anticipation by Hamm, which has a filing date of December 31, 1998.

Applicants responded on November 6, 2002. The response included a Declaration of inventor William H. Barber under 37 CFR § 1.131, the purpose of which was to prove, among other things, that the inventions of claims 1 and 43 had been conceived of before the filing date of Hamm. In his Office Action dated December 19, 2002, the Examiner ruled that the Declaration was ineffective because

it did not allege acts in a country qualifying under 35 USC § 104, was not made by both inventors, and was not accompanied by an explanation of the lack of a declaration by the other inventor. The Examiner did not suggest that the Barber Declaration was faulty because it disclosed merely vague ideas of how to solve the problem solved by the inventions of claims 1 and 43.

Applicants responded on June 19, 2003. A new Declaration was included that dealt with the specific problems noted by the Examiner in the previous Office Action, as well as the issue of conception (in particular, the issue of conception by inventor Barber before the filing date of Hamm). Attached as Exhibit 1 to the Declaration was one page of a laboratory notebook maintained by inventor Barber (the "Barber Notebook Page"). The page is dated June 17, 1998 -- antedating Hamm by roughly seven months -- and describes a design for a disk dispensing and retrieval system, as well as a plan for prototyping that system. In total, the Barber Notebook Page reads as follows:

"The concept is a DVD vending kiosk. It will house a touch screen display connected to a computer, a scanner to quickly test the condition of outgoing and incoming disks, a random stacking system with a serial # reader, a credit card charging system, a dispensing and retrieval system and a dispenser for Tyvek or some other protective sleeve for the disks. Also a printer for receipts and/or movie notes, preferably onto the protective sleeve.

"The system could be used as a movie (DVD) (DVSK) retail and sales kiosk. I may also have other applications such as CDRom sales, data management for in-house CDRom storage & retrieval in libraries or company data storage areas.

"The design will be modular enough to adapt to different disk sizes as the industry moves to smaller formats, and should be prototyped by the end of 1998." Barber Notebook Page.

The next Office Action was mailed August 6, 2003. The Examiner held that applicants had successfully overcome the Hamm reference with the Declaration filed 19 June 2003 under 37 CFR §1.131.

While the Examiner determined in his Office Action of August 6, 2003 that applicants had conceived before Hamm had filed, the Examiner continued to maintain that claims 1 and 43 were unpatentable. In particular, he held that claims 1 and 43 were unpatentable over U.S. Patent No. 5,934,439 to Kanoh et al. ("Kanoh") in view of U.S. Patent No. 6,289,322 to Kitchen et al. ("Kitchen") for obviousness under 35 USC § 103(a). Applicants responded on November 6, 2003. The response included an expanded Declaration of inventor William H. Barber under 37 CFR § 1.131, the purpose of which was to prove, among other things, that the inventions of claims 1 and 43 had been conceived of before the March 3, 1998 filing date of Kitchen -- a little over three months prior to the date of the Barber Notebook Page.

The expanded Declaration included new Exhibits 1, 2 and 3 (all prior Exhibits being renumbered to make room for the new Exhibits). Exhibits 1 and 3 were particularly significant. Exhibit 1 is a copy of preliminary business feasibility notes authored by inventor Barber in June 1997. These relate directly to the inventions of claims 1 and 43. Exhibit 3 is a Declaration of Scott Mackey, a classmate of inventor Barber's who discussed with inventor Barber, in depth, the subject matter of claims 1 and 43. Beginning in July 1997, Mr. Mackey reviewed documentation prepared by inventor Barber in support of his concepts relating to claims 1 and 43. Beginning in February 1988, Mr. Mackey discussed in detail several conceptual elements and financial plans for the business of making and selling a disk dispensing and retrieval system, including components, technologies and techniques.

The next Office Action was mailed January 2, 2004. The Examiner concluded that applicants had not successfully antedated Kitchen. In particular, the Examiner stated that new Exhibits 1, 2 and 3 had not "presented any more than a vague idea of the problem: 'Provide a convenient way for the public to rent or buy movies thru the latest technology.'" The Examiner further stated that the new Exhibits had not presented means to solve the problem or any interactions between the means.

The Examiner then proceeded to dissect and discard, separately, the Exhibit 1 preliminary invention notes and the Exhibit 3 Mackey Declaration. They were not only considered separately, but also with disregard for the averments of fact set forth at length in the foundation Barber Declaration to which they were attached. In short, the issue addressed by the Examiner was whether any of the Exhibits, standing alone, demonstrated conception, and not whether the Exhibit 1 document and the Exhibit 3 Mackey Declaration -- taken as a whole with the Declaration of inventor Barber -- made out a sound and legally sufficient case of conception in mid-1997.

In response, on April 16, 2004, applicants submitted a further expanded Declaration of inventor Barber and, as an additional exhibit, a technical presentation authored by inventor Barber relating to "Open Access ESI/Mass Spectrometry: A Walk-up MS Service." (presented as Exhibit 2, all prior Exhibits starting with old Exhibit 2 being renumbered to make room for the new Exhibit). This new Exhibit was presented to corroborate inventor Barber's level of skill in the art and ability to make the inventions claimed.

The most recent Office Action in this matter was mailed July 22, 2004. The evidence stated in and attached to the Barber Declaration was not discussed, the Examiner rejecting the entirety without discrimination as "a vague concept on the solution to the problem." While the Examiner did make specific mention of the Mackey Declaration, he considered it in a vacuum, stating that it did "not supply any evidence of a complete disclosure." For the reasons discussed below, these were errors of law under 37 CFR § 1.131.

### **37 CFR § 1.131 - Applicable Law**

37 CFR §1.131 provides that an applicant facing a rejection on a reference under 35 USC § 102(e) "may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claim prior to the effective date of the reference . . ." To prevail, "any satisfactory evidence of the fact" may suffice. MPEP 715.07(I.) If an applicant so desires, evidence "in the form of exhibits may accompany the affidavit or declaration." *Id.*

An Examiner must consider all the evidence in ruling on a §1.131 presentation. In *Ex Parte Ovshinsky*, 1989 Pat.App. LEXIS 1, 10 U.S.P.Q.2d 1075 (BPAI 1989), the Examiner dissected the evidence and considered only four exhibits out of a much broader presentation. These four exhibits were considered inadequate to prove conception. The Board reversed, holding in part that "all the evidence must be considered *in its entirety*, including the Rule 131 declaration and accompanying exhibits, records and 'notes'". *Id.* at 5 (emphasis added). The Board further ruled that "it is entirely appropriate for appellants to rely on a showing of facts set forth in the Rule 131 declarations themselves to establish conception," and further that an "exhibit need not support all of the claimed limitations but rather a missing feature may be supplied by the declaration itself." *Id.* See also MPEP 715.07(I.); *In re Stryker*, 435 F.2d 1340, 1971 CCPA 439, 168 U.S.P.Q. 372 (CCPA 1971); *Ex parte Swaney*, 89 U.S.P.Q. 618 (BPAI 1950).

Declaration evidence submitted for purposes of establishing prior invention under §1.131 is not analyzed as though it were presented in an interference proceeding: "The law developed in our Rule 131 cases has little bearing on the law relating to interference practice... [T]here are certain basic distinctions between an interference proceeding and an *ex parte* proceeding. As a result, in an *ex parte* proceeding, one may antedate a reference by a showing which is less than that which would be required for a party to win a priority contest." *Wetmore v. Quick*, 536 F.2d 937, 1976 CCPA 153, 190 U.S.P.Q. 223 (CCPA 1976); see also *In re Moore*, 444 F.2d 572, 58 CCPA 1340, 170 U.S.P.Q. 260 (CCPA 1971).

#### **Applicant's New Declarations Antedate Kitchen**

Applicants submit herewith new Declarations under 37 CFR. §1.131 of William H. Barber and Scott Mackey. Relative to earlier Declarations, these set forth a more detailed and comprehensive review of the facts relating to conception of the inventions of claims 1 and 43 -- the independent claims -- of the '631 Application. Thus, the new Declaration of Mr. Barber reviews claims 1 and 43 element-by-element, explaining his state of mind and thinking as of June 1997 and pointing out the corroborative support provided by the Declaration of his colleague Mr. Mackey and Mr. Barber's own contemporaneous documents. Mr. Mackey's Declaration

supports a somewhat later date -- July 1997 -- for Mr. Barber's conception, but this is sufficient by several months to antedate Kitchen.

These new submissions comply in full with the applicable law and conclusively establish a case of conception in mid-1997. We do not believe that the Examiner can any longer state that applicants "do not provide sufficient evidence beyond a vague concept on the solution to the problem" (OA at 2). Nor can it be said that "there is no evidence on how billing is to be performed, credit verification, transmission of confirmation of confirmation and transmission of an electronic receipt to the user." Each topic is discussed in depth in the new Barber Declaration, corroborated in the Mackey Declaration, and further corroborated in the contemporaneous documentation, as more fully explained by Mr. Barber. It is no longer arguable that "the Declaration of Scott does not supply evidence of a complete disclosure" (OA 2). The totality of applicants' evidence more than satisfies that standard, in conformity with the applicable law.

In preparing this evidentiary submission, applicants have had in mind the presentation made to the Examiner to antedate Hamm in the Declarations and exhibits filed on June 19, 2003 and November 6, 2003. The principal evidence found persuasive by the Examiner in that context was the Barber Notebook Page -- submitted here as Exhibit 5. Because Exhibit 5 is dated only three months after the filing date of Kitchen, we believe that it suggests to a limited extent that the invention was conceived, at the very least, in the time frame of the Kitchen filing. However, this is the very least of our proofs and our case for conception does not depend on it.

The Examiner has considered and found the previous remarks by Applicants non-persuasive in view of the art as currently applied. The Examiner has additionally considered and found the previous Declarations (of November 6, 2003) ineffective to overcome Kitchen. Applicants contend that the new Declarations of Mr. Barber and Mr. Mackey, as well as supporting documents, submitted herein under 37 CFR. §1.131, are sufficient to antedate Kitchen, thus eliminating the reference from the art applied by the Examiner. Applicants have further presented arguments that demonstrate patentability over the Examiner's prior grounds for rejection.

In summary, Applicants have shown why claims 1-83 are patentably distinguishable over the prior art and that Kitchen is inapplicable as a prior art reference to these claims. Applicants respectfully request admission of their new evidentiary presentation, elimination of Kitchen as a prior art reference, withdrawal of the Section 103(a) rejections based on Kitchen, and immediate allowance of the '631 Application. If an interview would expedite the allowance of the '631 Application, the Examiner is encouraged to telephone the undersigned attorney.

This Amendment and Response is concurrently filed with a Request for Continued Examination ("RCE"), indicating authorization to charge the required small-entity fees of \$395 for the RCE and \$510 for the necessary Three-Month Extension of Time to Deposit Account No. 12-0600. It is believed that no further fees are due. However, if any fee is deemed necessary in connection with this Response or the accompanying Request for Continued Examination, the Commissioner is hereby authorized to charge Deposit Account No. 12-0600.

Respectfully submitted,

Date: 4 JAN 2005

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**IN THE UNITED STATES PATENT OFFICE**

Applicant(s):	William H. Barber et al.	Group No.:	3627
Serial No.	09/578,631	Examiner:	Chilcot, Robert E.
Filed:	25 May 2000	Confirmation No.	5757
Title:	DISK DISPENSING AND RETRIEVAL SYSTEM AND ASSOCIATED METHODS		

**DECLARATION OF WILLIAM H. BARBER  
PURSUANT TO 37 CFR §1.131**

I, William H. Barber, hereby declare as follows:

**Background**

1. I am a named inventor in U.S. Patent Application No. 09/578,631 (the '631 Application), filed on May 25, 2000.
2. I currently reside at 1115 Del Verde, Newbury Park, CA 91320.
3. My undergraduate degree is a BA in Aquatic Biology from University of California, Santa Barbara, 1987. This was an expanded degree inside the Biology Department that included standard biology and specific courses in marine and fresh water biology. I also have an MBA from the University of Colorado, Executive Programs, 1998.
4. I am a founder and Director of DVDPlay, Inc. (formerly Freeflyr, Inc.), which owns all right, title and interest in and to the '631 Application.
5. I have studied and understood the specification and claims in the '631 Application, filed May 25, 2000. The claims of the '631 Application generally relate to a disk dispensing and retrieval system, and methods thereof, such as to dispense DVDs to users.
6. This Declaration is being presented under 37 CFR. §1.131 to supplement earlier declarations on the issue of conception of the claimed inventions prior to the



effective filing date of U.S. Patent No. 6,289,322 to Kitchen et al. (March 3, 1998).

### **Mackey Declaration**

7. Also submitted separately and contemporaneously with the submission of this Declaration is a Declaration (the "Mackey Declaration") of Scott Mackey, a colleague of mine with whom I discussed the claimed inventions in confidence starting in mid-1997.

### **Exhibits**

8. Attached for the convenience of the Examiner are Exhibits 1, 2 and 5 of my Declaration of April 15, 2004.
  - a Exhibit 1 is a copy of preliminary business feasibility notes made in June of 1997 during a business feasibility exercise conducted as part of my executive Masters of Business Administration business retreat hosted by the University of Colorado.
  - b Exhibit 2 is a copy of a confidential poster presentation given to my former employer dated August 15, 1997; this lays out my concept of a fully automated, self-service mass spectrometer (confidential words have been redacted).
  - c Exhibit 5 is a copy of a June 17, 1998 page of my Lab Notebook, which is stored in a safe deposit box at Wells Fargo Bank, 140 E. Thousand Oaks Blvd, Thousand Oaks, CA 91360.

### **Conception of Claim 1**

9. I conceived of the invention stated in claim 1 shortly before I attended the MBA Program in June 1997. I had been thinking about the general subject matter for some time, particularly as a result of my work with the mass spectrometer, but the invention did not gel until shortly before the Program.
10. Below I set forth each element of claim 1 in the exact order it appears in the claim. For each element, I then recite my recollection as of today of what I

understood about my claim 1 invention in June 1997. Following this, I identify the additional evidence that corroborates my recollections, including the Mackey Declaration and the attached Exhibits.

11. Note that claim 1 has been amended to substitute “central processing unit” for “processor” and that amendment is reflected in the claim as recited below.
- 11A. All of the statements made below relate to the state of my knowledge and information as of June 1997, except as noted otherwise.
12. Claim 1 relates to a system involving a kiosk and a server:

*A system for dispensing optical storage media from a kiosk, remote from a system server and communicatively connected to said system server, said system comprising:*

Statement:

1. The problem that I was (and had been) concerned with was distribution of recorded media, particularly video disks. I felt that retail outlets were outdated and inefficient. A large inventory was common, staff was required and a building or building space was required for inventory and selling activities.
2. A superior method, I felt, was providing an Internet-connected website for customer interaction. In this solution, a warehouse shipped an order submitted via the Internet through the mail or using a private courier, bypassing most of the costs associated with a retail location. Another advantage of Internet-based distribution, I felt, was that a customer could set up an account and pay electronically.
3. This solution was flawed, however. The customer had to wait for shipping, particularly if the item order was out of stock. Furthermore, for an Internet business involving rental of media, this solution was impractical because rental customers wanted product immediately.

I believed that what was needed was an Internet-based rental or retail

system that provided a renter or customer -- at several different automated dispensing locations -- with immediate possession of the desired media in return for immediate payment by credit card. No retail outlet would be required. The result would be an automated distribution system that was simple and inexpensive to construct and maintain.

4. My thought in June 1997 was to create such a solution using known industry components. I was familiar with these components in part through my work with the automated mass spectrometer analysis device at a large pharmaceutical company. See Exhibit 2. This system was planned in early 1997 as a full-use automated self-service walk-up device, analogous to the dispensing location I had in mind for renting video disks. It was implemented in August of 1997. Remote printing was available via an Intranet and networked printers.

5. The equipment of the analysis device (particularly, the mass spectrometer and carousel-based autosampler) was networked to a personal computer and through the personal computer and an intranet to a printer. Operation of the analysis device began when samples were placed in individual slots of the analysis device, and included the following steps:

- a) A set of instructions and user ID were generated at the personal computer upon request from the user;
- b) data specific to the samples in the slots of the analysis device was entered by a user, via a simplified user interface;
- c) Instructions were networked to the equipment and carried out as requested;
- d) On cue, the carousel-based auto-sampler rotated into position and activated a set of processes specific to analyze a sample;
- e) A log of such events was generated;

- f) Results of instruction execution were automatically compiled and spooled, then stored and/or transmitted and documented on network printers, and
- g) Results specific to individual samples analyzed were stored and/or documented on printers or computer screens proximal to the device or remote from the device, via the Intranet.

6. Other known industry components I thought of using in June 1997 to create a solution were computers of various types -- including personal computers -- and the use of computers to implement a client-server model, in which a server computer communicated with one or more client computers, providing them with information and receiving from them requests and feedback. One typical configuration was the hub and spoke configuration.

7. In June 1997, I decided that the solution I was seeking would be to use computer-automated kiosks to dispense optical media. Payment would be by credit card, and the transactional issues raised by the use of credit cards would be handled by a remote server linked to the kiosks. Figure 1 of my application depicts one such system.

Corroboration: *Mackey Declaration* at ¶¶ 5-6: "Each kiosk was run by a computer and communicated electronically with a system computer or server..."; *Exhibit 1*: for example, see references to "Disc-Spenser," denoting something that dispenses discs, which are one form of optical storage media [p. 5, §1], "website reservation," denoting use of the World Wide Web, i.e., computers that communicated with each other, "automation (inventory control)" and "7 days / 24 hour operation" as superiority points over the competition [pp. 6,10], "kiosk" as a distribution channel [pp. 8,11,12], and "major credit cards" as a method of sale [pp. 8,10]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of

Kitchen et al., I believe that it tends to prove conception prior to that date because of the short time lag).

13. Claim 1 first requires:

*a first central processing unit in said kiosk;*

Statement: I believed that a kiosk, to be automated, had to have a computer. I was not aware of any computer that did not have a central processing unit. My contemplation at the time was that the kiosk would utilize a personal computer with a central processing unit, e.g., a microprocessor of the Pentium class. These machines were powerful enough to do what had to be done to run a kiosk as I envisioned it.

Corroboration: *Mackey Declaration* at ¶ 5: “Each kiosk was run by a computer”; *Exhibit 1*: for example, see references to “kiosk” [p. 8 §3]; “website reservation,” denoting use of the World Wide Web (i.e., computers) and “automation (inventory control)” [pp. 6, §3], *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag).

14. Claim 1 next requires:

*a first set of instructions for directing said first central processing unit to:*

Statement: I believed that microprocessors pre-configured to perform operations such as receiving requests for optical storage media, transmitting billing information and receiving billing confirmation, and dispensing media were not generally available. Therefore I believed that the microprocessor in the kiosk computer required instructions to function properly. The instructions mentioned here are, as stated below, the instructions necessary to cause the microprocessor to disperse media

and confirm credit card information, critical aspects of a rental or sales transaction.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1* for example, see references to “website reservation,” denoting use of the World Wide Web (i.e., computers) and “automation” (i.e., acting autonomously, thus under control of instructions) [pp. 6, §3]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag).

15. Claim 1 next requires that the instructions direct the kiosk microprocessor to:

*receive a request for an optical storage media and billing information from a user,*

Statement: I believed in 1997 that this was what the microprocessor should be told to do first. In any event, these functions had to be performed at some point in a rental transaction in a computer-controlled kiosk. My thought was that the request for media would result in a response from the kiosk microprocessor for credit card information, which would be entered by swiping a card in the usual instance. The claimed instruction directs the microprocessor to receive the necessary request for a disk and receive billing information in the manner I contemplated in June 1997.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12, parts a and b, above.

16. Claim 1 next requires that the instructions direct the kiosk microprocessor to:

*transmit said billing information to said system server for confirmation,*

Statement: I believed that the kiosk computer should occupy itself with local kiosk activities and not be involved in credit card transactions other than to receive the information and a confirmation of credit. My preference was that the necessary communications with credit card companies be handled by the system server, somewhat along the lines of a client-server model. The claimed instruction directs the microprocessor to send confirmation to the system server in the manner I contemplated in June 1997.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to “website reservation,” denoting use of the World Wide Web (i.e., computers communicating with one another in a client-server relationship) [p. 6, §3], “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12, parts b and c, above.

17. Claim 1 next requires that the instructions direct the kiosk microprocessor to:

*receive said confirmation of billing from said central server, and*

Statement: I felt that this was a logical closure of the issue of payment by a customer. Credit card confirmation is a way of life with vendors. I did not want the kiosk microprocessor to authorize the dispensing of a disk without credit card confirmation, and the claimed instruction accomplishes this objective in the manner I contemplated in June 1997.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the

short time lag); see also evidence and discussion set forth in ¶ 12, parts b and c, above.

18. Claim 1 next requires that the instructions direct the kiosk microprocessor to:

*dispense said requested optical storage media to said user;*

Statement: This instruction signals the end of the transaction with the customer.

He or she receives what they have paid for. This instruction, and its sequence with the other instructions, is what I contemplated in June 1997.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to “Disc-Spenser,” denoting something that dispenses discs, which are one form of optical storage media [p. 5, §1]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag).

19. Claim 1 next requires:

*a first media readable by said first central processing unit for storing said first set of instructions;*

Statement: I believed that storage media of some sort was required to store the instructions itemized above, as well as other instructions directing the kiosk microprocessor to perform other necessary functions, like running a display screen. This claim requirement is consistent with my understanding. I contemplated that the kiosk computer would use hard drives, perhaps in a hot-swappable RAID configuration, for long-term storage and random-access memory for short term volatile storage.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see reference to “automation” (i.e., acting autonomously, thus under control of instructions) [pp. 6, §3]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of



Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag).

20. Claim 1 next requires:

*a second central processing unit in said system server;*

Statement: I believed that a system server, to serve the billing needs of the system as a whole and to serve and accept instructions from a kiosk, had to have a computer. I was not aware of any computer that did not have a microprocessor. My contemplation at the time was that the kiosk would utilize a large-frame personal computer with one or more microprocessors of the Pentium class. These machines were powerful enough to do what had to be done to handle billing communications with one or more kiosks.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see reference to “website reservation,” denoting use of the World Wide Web (i.e., computers communicating with one another in a client-server relationship) [p. 6, §3]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12 part c, above.

21. Claim 1 next requires:

*a second set of instructions for directing said second central processing unit to:*

Statement: I believed that microprocessors pre-configured to perform operations such as receiving requests for optical storage media, transmitting billing information and receiving billing confirmation, and dispensing media were not generally available. Therefore I believed that the microprocessor(s) in the system server computer required instructions to function properly. The instructions mentioned below are,

as stated below, the instructions necessary to cause the microprocessor(s) to perform what I felt were important functions, including a credit check and conveyance to the kiosk microprocessor of billing confirmation.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see reference to “automation” (i.e., acting autonomously, thus under control of instructions) [pp. 6, §3]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12, part c, above.

22. Claim 1 next requires that the instructions direct the server microprocessor to:

*receive said billing information from said first central processing unit,*

Statement: As noted above, my intention was that the system server handle billing functions. The instruction above, as I believed in 1997, was intended to initiate that process by providing the server microprocessor(s) with the billing information necessary to perform the billing functions that follow below.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag).

23. Claim 1 next requires that the instructions direct the server microprocessor to:

*perform a credit verification routine on a credit account in said billing information,*

Statement: I felt that credit card verification was an important function of the system server. This was a routine practice of most vendors I was

aware of. This claimed instruction directs the server microprocessor(s) to perform the necessary verification, as I contemplated in 1997.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12, part c, above.

24. Claim 1 next requires that the instructions direct the server microprocessor to:

*transmit said confirmation to said first central processing unit responsive to a verification of credit account, and*

Statement: This instruction caused the server microprocessor to provide the kiosk microprocessor with the information necessary to permit the kiosk microprocessor to perform a dispersal transaction or refuse to perform a dispersal transaction. Receipt of this information was the reason that the kiosk microprocessor was instructed to send confirmation information to the system server in the first place. This instruction implements the system I envisioned in 1997.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12, parts d, e, f and g, above.

25. Claim 1 next requires that the instructions direct the server microprocessor to:

*transmit an electronic receipt for said transaction to a user specified address in said billing information; and*

Statement: I considered it important to provide customers with electronic verification of their transactions with a kiosk. This information could be dispensed, of course, by a kiosk in paper form. But if only this were done, then there would not be sufficient post-transaction electronic contact with the customer, which I felt would be bad for business. For these reasons, I considered this instruction to represent a useful aspect of my dispersal system.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 12. parts d, e, f and g, above.

26. Claim 1 finally requires:

*a second media readable by said second central processing unit for storing said second set of instructions.*

Statement: I believed that storage media of some sort was required to store the server instructions detailed above, as well as other instructions directing the server microprocessor to perform other necessary functions, like running a display screen. This claim requirement is consistent with my understanding. I contemplated that the server computer would use hard drives, perhaps in a hot-swappable RAID configuration, for long-term storage and random-access memory for short term volatile storage.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see reference to “automation” (i.e., acting autonomously, thus under control of instructions) [pp. 6, §3]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of

Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag).

**Conception of Claim 43**

27. I conceived of the invention stated in claim 43 shortly before I attended the MBA Program in June 1997. I had been thinking about the general subject matter for some time, particularly as a result of my work with the mass spectrometer, but the invention did not gel until shortly before the Program.
28. Below I set forth each element of claim 1 in the exact order it appears in the claim. For each element, I then recite my recollection as of today of what I understood about my claim 43 invention in June 1997. Following this, I identify any evidence that corroborates my recollection, including the Mackey Declaration and the attached Exhibits.
29. Claim 43 relates to:

*A method for dispensing optical storage media from a kiosk remote from a system server and communicatively connected to said system server,*

Statement:

1. The problem that I was (and had been) concerned with was distribution of recorded media, particularly video disks. I felt that retail outlets were outdated and inefficient. A large inventory was common, staff was required and a building or building space was required for inventory and selling activities.
2. A superior method, I felt, was providing an Internet-connected website for customer interaction. In this solution, a warehouse shipped an order submitted via the Internet through the mail or using a private courier, bypassing most of the costs associated with a retail location. Another advantage of Internet-based distribution, I felt, was that a customer could set up an account and pay electronically.
3. This solution was flawed, however. The customer had to wait for shipping, particularly if the item order was out of stock.

Furthermore, for an Internet business involving rental of media, this solution was impractical because rental customers wanted product immediately.

I believed that what was needed was an Internet-based rental or retail system that provided a renter or customer -- at several different automated dispensing locations -- with immediate possession of the desired media in return for immediate payment by credit card. No retail outlet would be required. The result would be an automated distribution system that was simple and inexpensive to construct and maintain.

4. My thought in June 1997 was to create such a solution using known industry components. I was familiar with these components in part through my work with the automated mass spectrometer analysis device at a large pharmaceutical company. See Exhibit 2. This system was planned in early 1997 as a full-use automated self-service walk-up device, analogous to the dispensing location I had in mind for renting video disks. It was implemented in August of 1997. Remote printing was available via an Intranet and networked printers.

5. The equipment of the analysis device (particularly, the mass spectrometer and carousel-based autosampler) was networked to a personal computer and through the personal computer and an intranet to a printer. Operation of the analysis device began when samples were placed in individual slots of the analysis device, and included the following steps:

- a) A set of instructions and user ID were generated at the personal computer upon request from the user;
- b) data specific to the samples in the slots of the analysis device was entered by a user, via a simplified user interface;
- c) Instructions were networked to the equipment and carried out as requested;

- d) On cue, the carousel-based auto-sampler rotated into position and activated a set of processes specific to analyze a sample;
- e) A log of such events was generated;
- f) Results of instruction execution were automatically compiled and spooled, then stored and/or transmitted and documented on network printers, and
- g) Results specific to individual samples analyzed were stored and/or documented on printers or computer screens proximal to the device or remote from the device, via the Intranet.

6. Other known industry components I thought of using in June 1997 to create a solution were computers of various types -- including personal computers -- and the use of computers to implement a client-server model, in which a server computer communicated with one or more client computers, providing them with information and receiving from them requests and feedback. One typical configuration was the hub and spoke configuration.

7. In June 1997, I decided that the solution I was seeking would be to use computer-automated kiosks to dispense optical media. Payment would be by credit card, and the transactional issues raised by the use of credit cards would be handled by a remote server linked to the kiosks. Figure 1 of my application depicts one such system.

Corroboration: *Mackey Declaration* at ¶¶ 5-6: "Each kiosk was run by a computer and communicated electronically with a system computer or server..."; *Exhibit 1*: for example, see references to "Disc-Spenser," denoting something that dispenses discs, which are one form of optical storage media [p. 5, §1], "website reservation," denoting use of the World Wide Web, i.e., computers that communicated with each other, "automation (inventory control)" and "7 days / 24 hour operation" as superiority points over the competition [pp. 6,10], "kiosk" as a distribution channel [pp. 8,11,12], and "major credit cards" as a method

of sale [pp. 8,10]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it tends to prove conception prior to that date because of the short time lag).

30. The first step of Claim 43 is:

*receiving a request for an optical storage media and billing information from a user at said kiosk;*

Statement: I believed in 1997 that this was what the microprocessor should be told to do first. In any event, these functions had to be performed at some point in a rental transaction in a computer-controlled kiosk. My thought was that the request for media would result in a response from the kiosk microprocessor for credit card information, which would be entered by swiping a card in the usual instance. The claimed step directs the microprocessor to receive the necessary request for a disk and receive billing information in the manner I contemplated in June 1997.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1* : for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29, parts a, b, and c, above.

31. The next step of Claim 43 is:

*transmitting said billing information to said system server for confirmation;*

Statement: I believed that the kiosk computer should occupy itself with local kiosk activities and not be involved in credit card transactions other than to receive the information and a confirmation of credit. My preference was that the necessary communications with credit card companies be



handled by the system server, somewhat along the lines of a client-server model. The claimed step directs the microprocessor to send confirmation to the system server in the manner I contemplated in June 1997..

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to “website reservation,” denoting use of the World Wide Web (i.e., computers communicating with one another in a client-server relationship) [p. 6, §3], “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art) ; *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29, parts a, b, and c, above.

32. The next step of Claim 43 is:

*receiving said billing information in said system server;*

Statement: As noted above, my intention was that the system server handle billing functions. The step above, as I believed in 1997, was intended to initiate that process by providing the server microprocessor(s) with the billing information necessary to perform the billing functions that follow below.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while Exhibit 5 is dated approximately 3 months after the filing date of Kitchen et al., I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29, parts a, b, and c above.

33. The next step of Claim 43 is:

*performing a credit verification routine on a credit account in said billing information with said system server;*

Statement: I felt that credit card verification was an important function of the system server. This was a routine practice of most vendors I was aware of. This claimed step directs the server microprocessor(s) to perform the necessary verification, as I contemplated in 1997.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art) ; *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29. part c above.

34. The next step of Claim 43 is:

*transmitting said confirmation from said system server to said kiosk responsive to a verification of credit account;*

Statement: This step caused the server microprocessor to provide the kiosk microprocessor with the information necessary to permit the kiosk microprocessor to perform a dispersal transaction or refuse to perform a dispersal transaction. Receipt of this information was the reason that the kiosk microprocessor was instructed to send confirmation information to the system server in the first place. This instruction implements the system I envisioned in 1997.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29, parts d, e, f and g, above.

35. The next step of Claim 43 is:

*transmitting an electronic receipt for said transaction to a user specified address received in said billing information;*

Statement: I considered it important to provide customers with electronic verification of their transactions with a kiosk. This information could be dispensed, of course, by a kiosk in paper form. But if only this were done, then there would not be sufficient post-transaction electronic contact with the customer, which I felt would be bad for business. For these reasons, I considered this step to represent a useful aspect of my dispersal system.

Corroboration: *Mackey Declaration* at ¶ 6; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29, parts d, e, f and g, above.

36. The next step of Claim 43 is:

*receiving said confirmation of billing from said central server in said kiosk; and*

Statement: I felt that this was a logical closure of the issue of payment by a customer. Credit card confirmation is a way of life with vendors. I did not want the kiosk microprocessor to authorize the dispensing of a disk without credit card confirmation, and the claimed step accomplishes this objective in the manner I contemplated in June 1997.

Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to “major credit cards” and “credit card related” [p. 8, §4 and p. 10, §2]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the

short time lag); see also evidence and discussion set forth in ¶ 29, parts a, b and c, above.

37. The final step of Claim 43 is:

*dispensing said requested optical storage media to said user.*

Statement: This step signals the end of the transaction with the customer. He or she receives what they have paid for. This step, and its sequence with the other steps, is what I contemplated in June 1997.

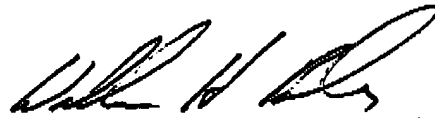
Corroboration: *Mackey Declaration* at ¶ 5; *Exhibit 1*: for example, see references to "Disc-Spenser," denoting something that dispenses discs, which are one form of optical storage media [p. 5, § 1]; *Exhibit 2* (showing skill in the art); *Exhibit 5* (while *Exhibit 5* is dated approximately 3 months after the filing date of *Kitchen et al.*, I believe that it evidences conception prior to that date because of the short time lag); see also evidence and discussion set forth in ¶ 29, parts e, f and g, above.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the Application or any patent issued thereon.

Respectfully submitted,

Date:

12/20/04



William H. Barber

# ***New Business Feasibility Study***

*CU Executive MBA*  
**Beaver Creak Retreat**  
Class of 1998

*June, 1997*

Professor Steve Lawrence  
*Executive Programs*  
University of Colorado

Exhibit 1

1 / 12

## *New Business Feasibility Study* **Packet Contents**

1. Schedule for *New Business Feasibility Study*
2. *New Business Feasibility Study* worksheets
3. Self-Assessment Instruments for Entrepreneurs
4. "The Entrepreneurial Mind in Thought and Action," Chapter 5 in Jeffrey A. Timmons, *New Venture Creation*, fourth edition, Irwin, 1994.
5. *Elements of a Business Plan*, Steve Lawrence, University of Colorado, Boulder, CO, 1996.

→ see web site

DVD  
/   /   /  
Digital Video Disk

## ***New Business Feasibility Study*** **Schedule**

### **Thursday evening, June 13**

Review: *FastTrac I Handbook*

Read: *The Entrepreneurial Mind in Thought and Action* (optional)

Prepare: Entrepreneurial self-assessment instruments (optional)

### **Friday morning, June 14**

- 8:30 – 9:00 Introduction (all)
- 9:00 – 9:30 Company Overview and Product Description work-up (teams)
- 9:30 – 9:45 Introduction to Marketing plans (all)
- 9:45 – 10:15 Marketing plan work-up (teams)
- 10:15 – 10:30 Introduction to Development and Operations planning (all)
- 10:30 – 11:00 Development and Operations work-up (teams)
- 11:00 – 11:15 Introduction to Financial plans (all)
- 11:15 – 11:45 Financial plan work-up (teams)
- 11:45 – 12:00 Wrap-up

### **Friday evening, June 14**

- Refine plan
- Complete Executive Summary
- Prepare for Saturday morning presentations

**Saturday morning, June 15.** Presentations are intended to be informal and informative. Present for no more than 10 minutes, leaving 5 minutes for questions.

- 8:30 – 8:45 Aurora Study Group
- 8:45 – 9:00 Highlands Ranch Study Group
- 9:00 – 9:15 Denver Study Group
- 9:15 – 9:30 Fort Collins Group
- 9:30 – 9:45 Englewood / Bow Mar Study Group
- 9:45 – 10:00 GoldEnvision
- 10:00 – 10:15 Boulder Study Group
- 10:15 – 10:30 Parker Study Group
- 10:30 – 10:45 Personal investment decisions
- 10:45 – 11:15 Introduction of second year faculty
- 11:15 – 11:30 Feasibility plan awards

*New Business Feasibility Study*  
***Worksheets***

Beaver Creek Retreat  
*Executive MBA*  
*Class of 1998*

*June, 1997*

Professor Steve Lawrence  
*Executive Programs*  
University of Colorado



## Company Overview

*The Company Overview is a brief description of the company you have founded or want to found. How will it be organized? Will it be a sole proprietorship, partnership, or corporation? What are your ambitions for the company? Will it always be a small company, or do you want to grow it into an international giant? Upon reading this section, the reader should have a good idea of where you are and where you are going with your company.*

---

What is the name of our company? Does our company currently exist, or will it be forming?

Disc-Spenser / Forming

---

How is our company organized (e.g., sole proprietorship, partnership, corporation, ...)?

Corporation

---

What is our overall strategy and what objectives do we have? What are our goals for the company (keep it small, grow it big, franchise it, ...) What is the exit strategy for ourselves and for our investors (sell to larger company, go public, buy out investors, ...)

- Rapid growth / national & international
- IPO Exit strategy (go public)
- sell to big corp.

## Product/Service Description

*The Product and Services section is a detailed description of the products and/or services you will be selling. You should not assume that the reader is familiar with your product/service, so be sure to explain and describe it carefully. Begin to sell your idea here by generating some excitement about your product/service. Be factual, but be enthusiastic. When readers have finished learning about your product or service, they should be primed to wade into the marketing and financial details of your venture.*

---

What exactly is our product or service? What isn't it? Carefully describe.

~~At~~ Provide a convenient way for the public to rent or buy movies thru the internet using the latest technology

---

What is unique about our product/service? What are its features and benefits? Do we have any proprietary rights to the product/service (for example, technology, patents, copyrights, etc.)?

- not currently avail  
Co,

---

Why is our product/service superior to the competition, and how is it different?

- website reservation
- Convenience (from car, more locations)
- cost (less staff, lower overhead)
- automation (inventory control)
- 7 days/24 hour operation

## Marketing Plan

*The Marketing section of your plan will make or break the prospects for your venture. A great idea is meaningless if you cannot find customers. Carefully drafted and logical financial projections are irrelevant if nobody buys your product. In the Marketing and Sales section you must convince first yourself, and then the reader, that there is indeed an eager market for your product.*

---

What is the market we intend to serve? How large is it? What is its growth potential?

- Everyone who watches movies
- High
- Unlimited

---

What is the industry that addresses this market? What trends are important in this industry? How does this industry segment the market?

- Entertainment
- Improving Tech, <sup>fast</sup> convenient service
- 

---

Who are our target customers? What problems are we solving for them? What are their profiles? What motivates their buying decisions?

- Everyone who watches movies
- Entertainment needs met
- Movies for every type of person
- Convenience, Cost, entertainment variety

(1) (2) (3)  
 What are the strengths of our product/service? Weaknesses? How will we position our product or service?

(1) - Convenience, ~~speed~~, privacy

(2) - Competitive threats (pay per view)

(3) - Push the convenience factor

Who are our competitors? What are their strengths and weaknesses? What other risks do we face entering this market?

- ~~VHS~~ Video Stores, cable, pay-per-view

↓  
 str.: Brand name  
 weak: only video tech  
 limited hours

↓ str.: convenience (more than VHS)  
 weak: limited movie selection

- ~~quick~~ - acceptance and development  
 (2) Pay per view really taking off

(1) What distribution channels will we use? How will we communicate with our customers (e.g., advertising, promotion, etc.?)

(1) - Kiosk

(2) - T.V. Advertising, flyers,

How will our product or service be sold? Who will do the selling?

↓

↳ sales staff

(1) ~~Bank~~ / major credit  
 cards, business

(2)

## Development and Operations Plan

*In this section, you will outline how you intend to ramp-up and operate your business. This section is often woefully under-developed in many business plans. Assuming you have a dynamic marketing plan and customers do indeed come flocking for your product or service, you must be able to deliver it to them.*

---

Is our product/service ready for the market, or is it in development? If in development, what must we do to make it ready for market?

- <sup>not</sup> Ready for Market (technology has just emerged)
- Customized machines
- VDT's w/ movies

---

What factors need to come together to make our concept work? What must we do to bring them together? What are the risks?

- Specialized vending machine, coordinating with particular locations & businesses, movies need to ~~be~~ be using new VDT technology
- Research VDT stage of development  
Spec out a vending machine  
Risk:

---

How will we produce and deliver our product/service? What will we do in-house, and what will we purchase (make vs. buy)?

- Purchase at wholesale discount
- Not source machine
- make special deal w/distributors
- get to know movie business

---

How will we use our operations to compete on dimensions of cost, quality, timeliness, and flexibility?

- ~~Costs~~: minimal human involvement in video business
- flexible: rental & buy 24 hours a day
- Quality: VDT provides improved quality
- Timeliness: vending machines conveniently located

---

How will we use technology to create comparative advantage with our operational design?

- ~~Barcode~~, GPS, real-time inventory, credit card related
- automatic re-stocking

## Financial Plan

Your Financial Plan should be frosting on a cake. You have outlined a great business concept, demonstrated a real need in the marketplace, shown how you will execute your ideas, and now will show how much money everyone is going to make. Note, however, that if your business concept is weak, or there is not a market, or if your execution is poor, then your financial plans are doomed to failure. If you haven't convinced your readers by now in the strength of your concept, then they won't be convinced with your financials. And remember, **CASH IS KING!**

How will our product be priced? What are gross revenues per unit sold?

$$\text{Sale} = \text{Cost} + \% \text{ of cost}$$

$$\text{DVD (Carane)} \quad \text{Kiosk}$$

$$\text{Kiosk} \quad \text{DVD (Carane)}$$

$$\text{Kiosk} \quad \text{DVD (Carane)}$$

$$\text{Kiosk} \quad \text{DVD (Carane)}$$

$$\text{Rental} = \% \text{ of cost}$$

$$\text{Target} = \text{rent} = \$400 \times 100 = \$400$$

What are the variable costs of producing or delivering a unit of our product (materials, labor, ...)?

What is the gross margin per unit (unit price minus variable cost)?

$$\text{Gross Margin} = \text{Unit Price} - \text{Variable Cost}$$

What are the ongoing fixed costs of operating our business (salaries, rent, capital, advertising, insurance, ...)?

$$\text{Fixed Costs} = \text{rent} + \text{salaries} + \text{advertising} + \text{insurance} + \text{capital} + \text{maintenance on machine, your salary, electrical}$$

What is the break-even point of our business? (The break-even quantity is equal to fixed costs divided by gross margin per unit).

$$\begin{array}{r} 1000 \text{ movies} \\ \times \$5 \text{ of each} \\ \hline 10,000 \text{ movies} \end{array}$$

---

What are the one-time start-up costs of our business (equipment, deposits, fixtures, furniture, ...)?

- machine (prototype)

---

What are our sales projections for the first 3 years? Estimate gross profit (revenues minus costs of goods sold) over this time horizon.

Estimate cash flow for each of the first three years (gross profit less fixed costs less start-up costs). How much cash will you need to start and sustain the business through its first 3 years? Where will it come from (savings, a loan, venture capital, an angel, ...)?





**Colorado Poster Session**  
August 15, 1997

**Abstract Titles**

**TNF $\alpha$ /sTNFR1**

1.

2.

3.

4.

5.

6.



44.

45.

46.

**Drug Metabolism/Analytical Chemistry**

47.

48.

49.

50.

51. Open Access ESI/Mass Spectrometry: A Walk-up MS Service  
*Bill Barber, Xiaobing Xiong and Eric Watson*

52.

53.

54.

**High Speed Synthesis**

55.

56.

## **PURPOSE:**

**Fully automated, self service, mass spec analysis is now available in the Analytical Chemistry Lab in building 1. This permits chemists with minimal M.S. training to quickly obtain real time structural information throughout the synthetic chemistry process and, through this, speed the drug discovery process.**

## **METHOD:**

### **Buffers:**

A key element in automated, open access analysis of a wide variety of compound classes has been the development of a single standardized MS system. A universal mobile phase had to be developed that would couple with electrospray ionization to produce a mild ionizing atmosphere with negligible fragmentation. It has recently been determined that a water / acetonitrile / 0.03% ammonium hydroxide solvent system is suitable for determining molecular weights for well over 98% of compound types generated on site.

## Equipment:

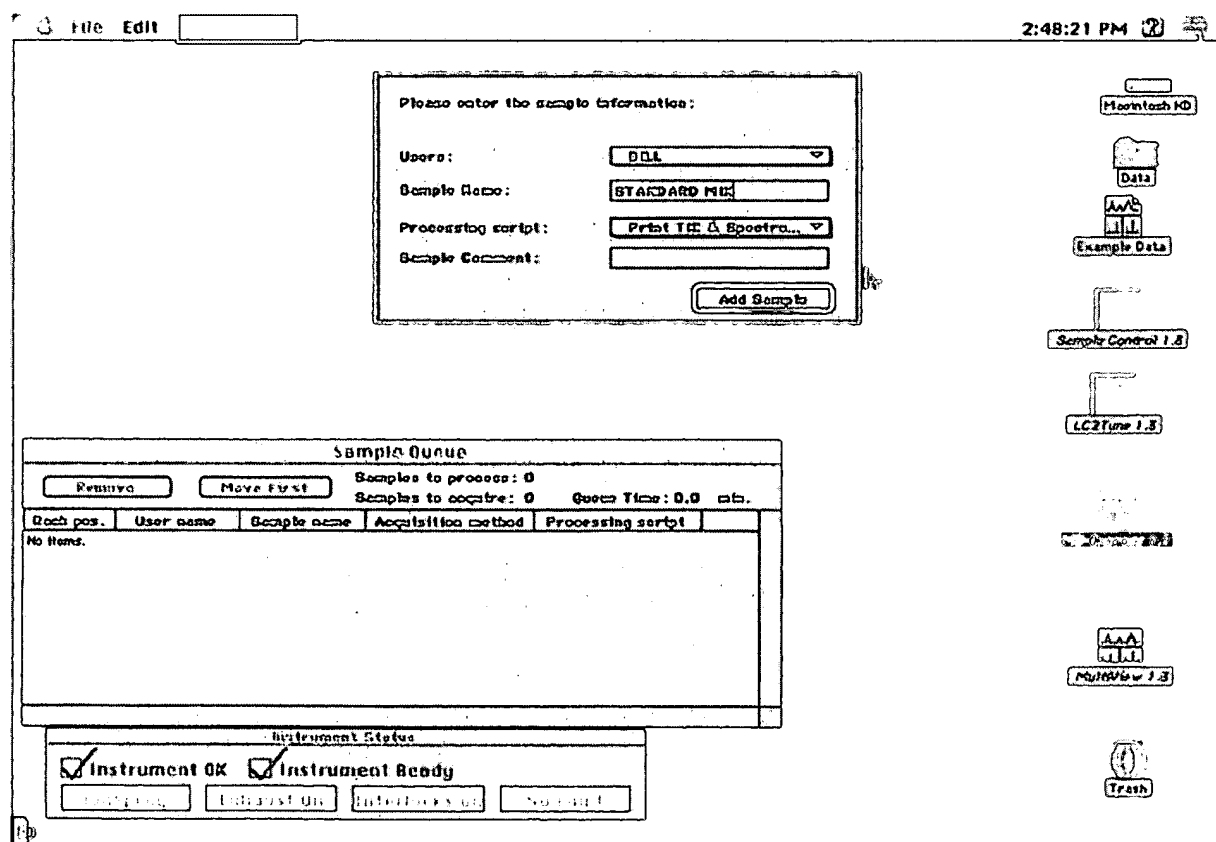
Hardware and software systems manufactured by Perkin Elmer / Sciex have been modified for our medicinal chemistry department to allow for minimal analyst input and maximum reliability. To simplify user access, a multifunctional user interface controls all the system components.



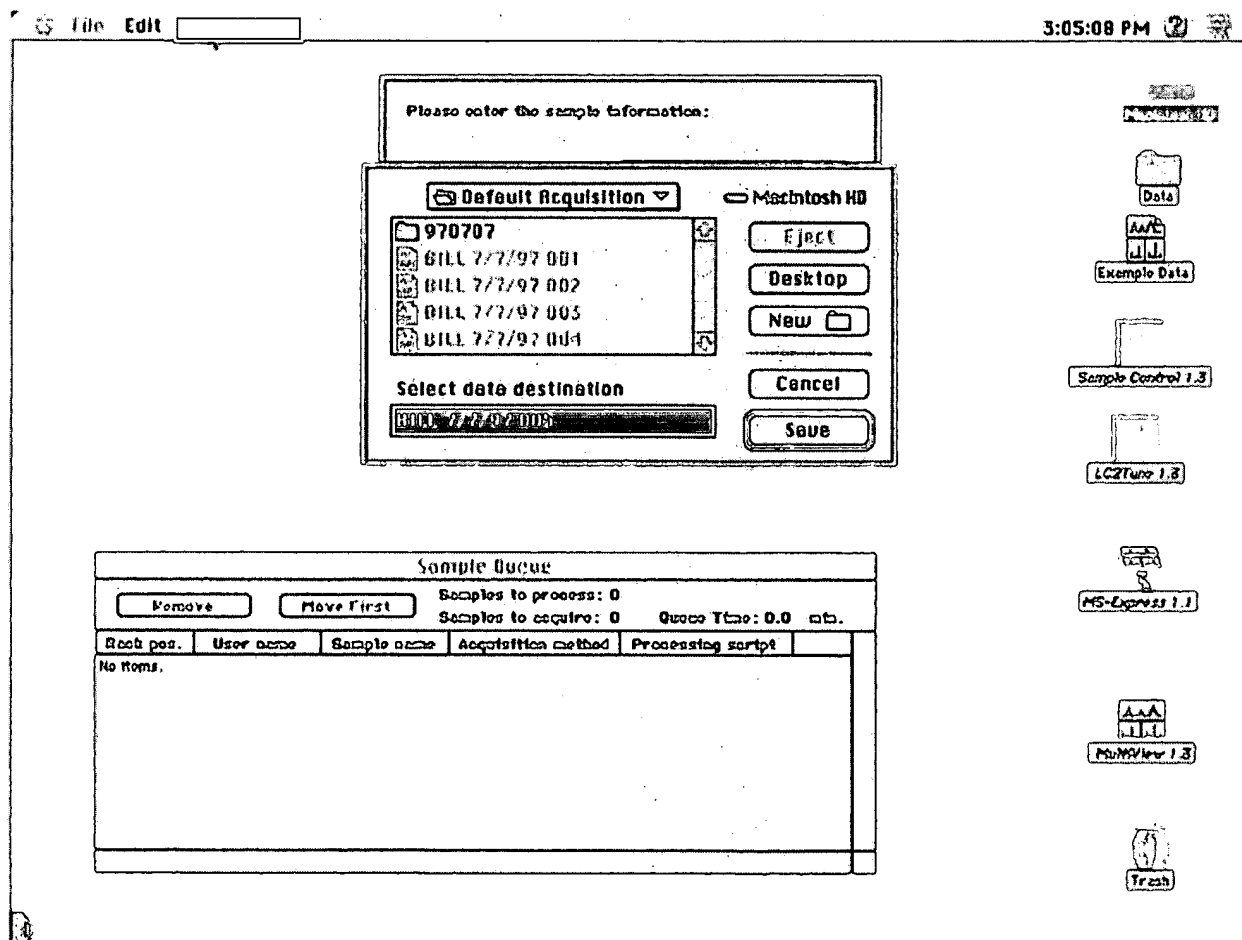
The Open Access System is vigilantly maintained by the  
system administrators

## Software:

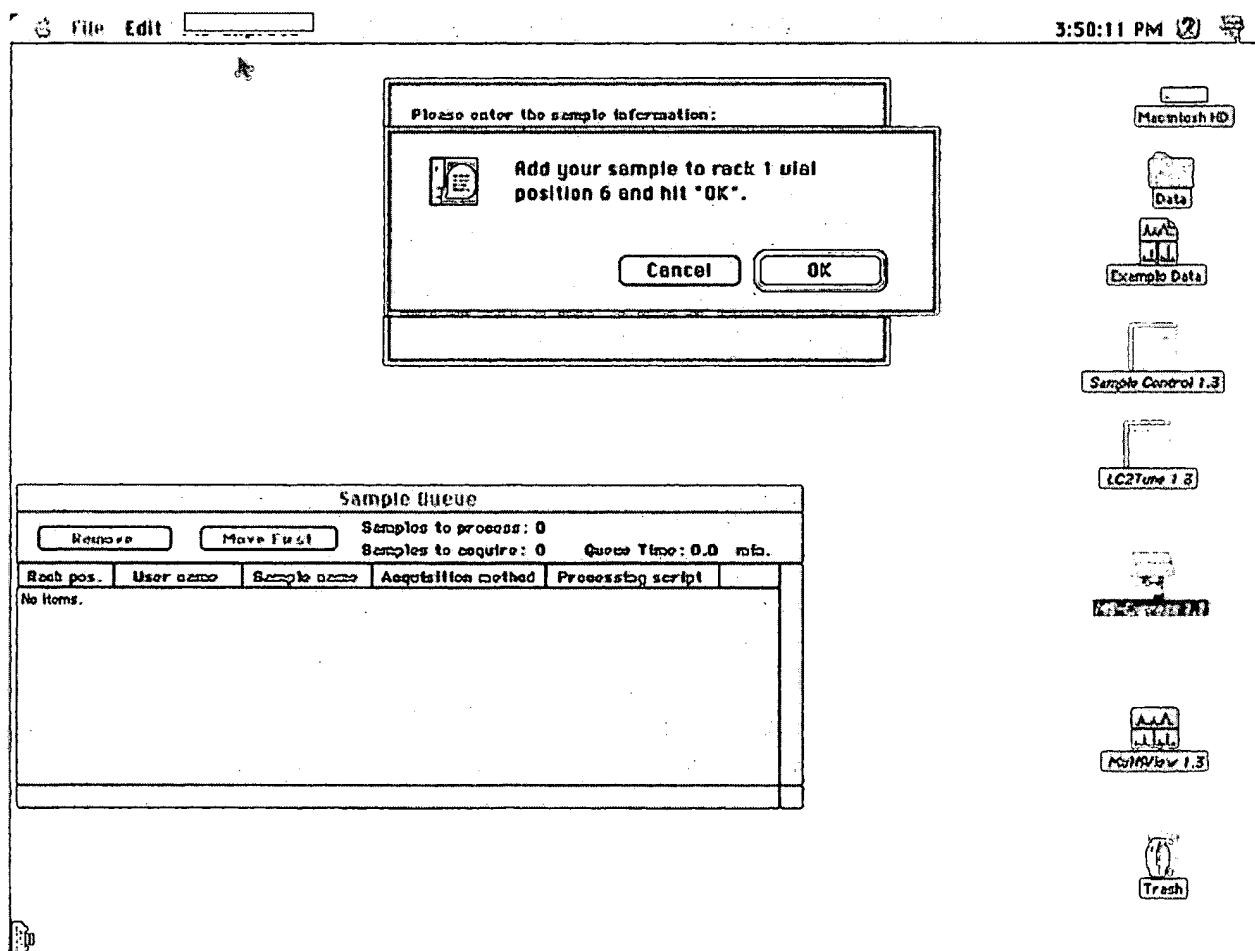
[ ] is designed to be flexible enough for an administrator to select from a variety of input parameters to meet the needs of the users. For molecular ion determination in the synthetic chemistry labs, [ ] has been set up to have the fewest possible input requirements. The user name is selected from a pull down menu that has been pre loaded by the system administrator. Sample information, such as a notebook number, can be entered up to 32 characters. The processing script, "Print TIC & Spectrum", is selected from the pull down menu. Sample comments are optional and will also appear on the printout. The "add sample" button directs the user to the file selection window.



All samples must be filed within the “Default Acquisition” folder. If a user is entering multiple samples, the default label will be automatically held for 30 seconds with the user name, date, and incremented run number (ex. Bill 7/7/97 001). Clicking on the “save” button enters the sample into the queue and the system notifies the user into which autosampler position the vial is to be placed.

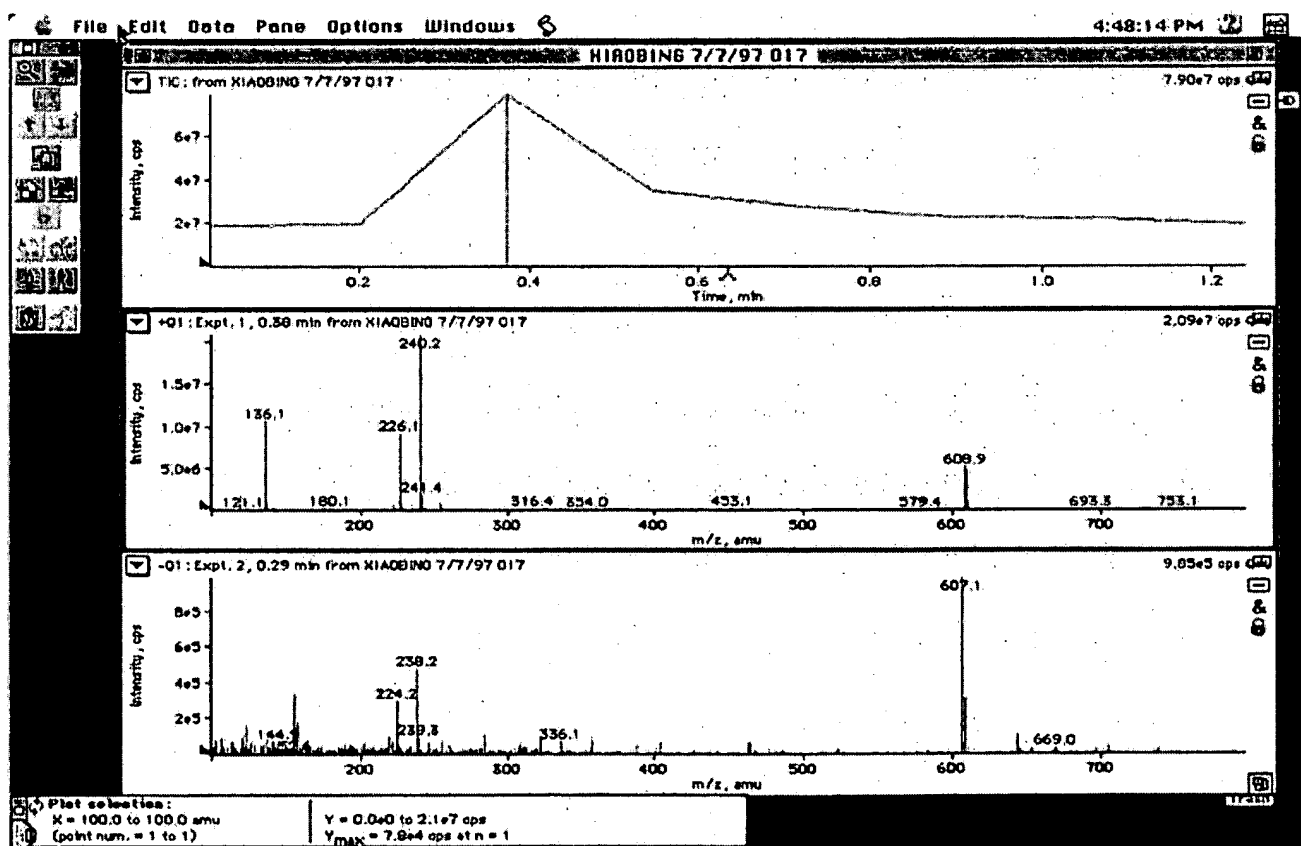


Once the vial is in the requested position the user clicks the "OK" button and the mass spec takes over.



# RESULTS FORMAT

At the end of the run, a post-run "Apple Script" is automatically activated that selects the largest peak in the total ion chromatograph (TIC), generates spectra in both positive and negative modes, and spools a one page print out that contains the TIC, and the two spectra. Results appear on the printout only. No on-screen information will be available. Below is an example of a single run of our standard mix which contains 4 compounds with individual molecular weights as follows: 4-amino benzamidine-135, Terbutaline-225, Salbutamol-239, and Reserpine-608.



1. The total Ion Chromatograph (TIC) is shown in the first panel.
2. The positive ion spectra in the second panel shows the (M+H)<sup>+</sup> ions of the four standards.
3. The negative ion spectra is shown in the last panel.



## **SPEED AND UTILITY**

Though the [REDACTED] software is designed to process batches as well as individual samples, the key to the utility of an open access system is its availability to the maximum number of users throughout the work day. To maintain access, individual and small batch runs are encouraged.

Organic chemists are now independently carrying out their own automated MS analysis with great success and total run times around two and a half minutes. Both positive and negative ionization modes are performed within the same run through 6 second switching intervals.

## **CONCLUSIONS**

For this system, samples are entered individually. Additional samples can be entered into the system while others are running. This builds a sample queue that will run until complete. Individual runs take 2 minutes and 45 seconds from "Go" to "print out", however a batch of queued samples will be completed faster as multi-tasking takes place during printing. No data manipulation is required or is possible and print outs are available on the "MS API" printer located next to the API III. Logging in samples at the lab entrance is no longer necessary and all data files will be discarded at the end of each week. To maintain system reliability, samples should be in Perkin Elmer approved autosampler vials and dissolved in the standard ms buffer; H<sub>2</sub>O : MeOH : ACN (1:1:1).

THE Concept is A DVD Vending Kiosk.  
 IT WILL HOUSE A TOUCH SCREEN DISPLAY CONNECTED  
 TO A COMPUTER, A SCANNER TO QUICKLY TEST THE CONDITION  
 OF OUTGOING & INCOMING DISKS, A RANDOM STACKING  
 SYSTEM WITH A SERIAL # READER, A CREDIT CARD  
 CHARGING SYSTEM, A DISPENSING & RETRIEVAL SYSTEM  
 AND A DISPENSER FOR TYUICK OR SOME OTHER PROTECTIVE  
 SLEEVE FOR THE DISKS. ALSO A PRINTER FOR RECEIPTS  
 AND/OR MOVIE NOTES, PREFERABLY ONTO THE  
 PROTECTIVE SLEEVE.

THE SYSTEM COULD BE USED AS A MOVIE (DVD)(DVSK)  
 RENTAL & SALES KIOSK. I MAY ALSO HAVE OTHER  
 APPLICATIONS SUCH AS CD ROM SALES, DATA MANAGEMENT  
 FOR IN-HOUSE CD ROM STORAGE & RETRIEVAL IN LIBRARIES  
 OR COMPANY DATA STORAGE ARENA.

THE DESIGN WILL BE MODULAR ENOUGH TO  
 ADAPT TO DIFFERENT DISK SIZES AS THE INDUSTRY  
 MOVES TO SMALLER FORMATS, AND SHOULD BE  
 PROTOTYPED BY THE END OF 1998.

B. Bly June 17, 1998



IN THE UNITED STATES PATENT OFFICE

Applicant(s):	William H. Barber et al.	Group No.:	3627
Serial No.	09/578,631	Examiner:	Chilcot, Robert E
Filed:	25 May 2000	Confirmation No.	5757
Title:	DISK DISPENSING AND RETRIEVAL SYSTEM AND ASSOCIATED METHODS		

DECLARATION OF SCOTT MACKEY  
PURSUANT TO 37 CFR §1.131

I, Scott Mackey, hereby declare as follows:

1. I am currently employed as an Economist/Associate with Kimbell Sherman Ellis, a government and public affairs firm with offices in Washington, D.C. and Montpelier, Vermont.
2. I currently reside at 288 E. Harvey Farm Road, Waterbury Center, VT 05677. I have obtained the following university degrees: B.A. (Middlebury College, 1985), M.B.A. (University of Colorado, 1998).
3. From the Fall Semester of 1996 through the Spring Semester of 1998, I attended the Masters of Business Administration (MBA) program offered through the University of Colorado, Denver. One of my classmates was William H. Barber.
4. Between July 1997 and February, 1998, I discussed with Mr. Barber, in confidence, a design he had evolved for the sale or rental of optical disks (movies mainly). I also reviewed, again in confidence, several business plans and Excel charts created by William H. Barber and directed to business models assessing the commercial viability of his design.
5. As I understood it in about July 1997, his design entailed the sale or rental of video disks through automated kiosks. Each kiosk was run by a computer and

communicated electronically with a system computer or server that stored or had electronic access to credit card information. A transaction was initiated when a consumer asked the kiosk for a particular disk. The kiosk computer responded with a request for credit card information. Once received, this information was sent by the kiosk computer to the server for a credit confirmation. The disk was released by the kiosk once a positive confirmation was received by the kiosk computer from the server.

6. Our discussions in about July 1997 included a credit verification system in which a computer server initiated a credit check when it received the request for credit confirmation from the kiosk computer. If the customer was found to be creditworthy, the server sent positive confirmation to the kiosk, as noted above. In addition, the server sent confirmation of the transaction to the customer's credit card company so that it would appear on the customer's monthly statement.
7. Mr. Barber's documents detailed his design and related business plans, laid out research notes as to DVD specifications and return identification technology, and further estimated costs of services and components related to the disk dispensing and retrieval system. For example, I recall the business plans including trade-offs between vendors and server technology and e-commerce billing techniques such as those presented in Mr. Barber's patent application (09/578,631), which I recently reviewed.
8. The plans and Excel charts were subsequently destroyed as newer models were saved over older models, and due to upgrades in computer equipment coincident with job changes. From February to June 1998, Mr. Barber and I discussed in confidence several conceptual elements and financial plans for the business of making and selling a disk dispensing and retrieval system, including the components, technologies and techniques discussed above.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the Application or any patent issued thereon.

Respectfully submitted,

Date:

12/22/2004

Scott Mackey  
Scott Mackey

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